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Are pharmacists being engineered?

The mindset of policy influencers may have planned the wrong road ahead for community pharmacy. Darrin Baines investigates.

The recent White Paper “Pharmacy in England”, reconfirms the Department of Health's long-term commitment to reforming working arrangements for community pharmacists.[1]

Built upon over 10 years of policy discussions and initiatives, the document outlines a series of ideas for the proposed future direction of travel. According to chapter 2, “The context for change”, the “institutional frame” within which pharmacy operates is changing again.[2] Therefore, pharmacy must be re-engineered to keep pace.

Although the idea that pharmacy must be reformed is now seemingly uncontroversial, this questions whether the desire for change is as much to do with policy-maker frame of mind as the needs of the institutional frame of reference shaping community pharmacy.

According to the management theorist Peter Senge, some of the best management ideas never get put into practice because the images, assumptions and stories — which he calls mental models — held by managers do not fit reality.[3]

To illuminate his hypothesis, Senge cites the story of the Emperor's New Clothes, which he claims is not about foolish people, but demonstrates how our ways of seeing affect our behaviour, to the extent that we often miss what others plainly see.

Mental models can be simple beliefs,such as “people are untrustworthy”, or complex theories, such as hypotheses explaining behaviour of family members. What they all have in common is that they are active, in the sense they shape how we act. Mental models are, therefore, powerful because they affect what we see, and what we see affects how we behave.

In this context, there may be something about the psyche of those within pharmacy who actively attempt to influence NHS policy that favours the remaking of the pharmacy world, rather than a scientific re-examination of the possibilities already in place.

Against the weight of sustained rhetoric from the Government and many within the profession, the proposition that the continual push for change simply reflects a frame of mind, rather than a pressing external need, may seem odd.

However, management psychology clearly suggests that working styles and personal goals relate closely to psychological make-up. For instance, the performance guru Thomas F. Gilbert suggested that whether someone approaches the world as a scientist or as an engineer will make real differences in what that person does, says and achieves.[4]

For instance, the scientist will observe the world “as is”, as a place of infinite unknown knowledge, whereas engineers harness what they already know for instant solutions to pressing problems.

In response to Gilbert's work, this article adopts the scientist or engineer distinction, and uses its implications to re-examine recent calls for change within community pharmacy. After hypothesising that policy influencers tend not to be scientists but engineers, it is argued that attempts to divert pharmacists into new activities may simply be an example of “the engineer's new clothes”.

In other words, recent reforms may simply be the result of an unquestioned application of the engineering model, with a myopia that fails to acknowledge the importance of the pharmacy system already in place.

Bell, the scientist

When chemists and druggists first emerged in the mid-1750s, they were not constrained by government policies, philosophies of care or professional ethics.[5]

Against this background, Jacob Bell worked ceaselessly to impose his mental model on the Georgian dispensary, through the creation of a body of medicine professionals united by common scientific training. In consequence, the way in which the pharmacy profession initially evolved was shaped by Bell's personal way of seeing, in particular his belief in the necessity of a scientific worldview.

With medicines production and sale being unregulated, and many unscientific myths circulating about the properties of different plant and chemical compounds, chemists and druggists could easily differentiate themselves as the safe suppliers of drugs.[6]

However, successfully occupying this niche required them to adopt the approaches and the practices being employed in the growing field of science. According to Brian L. Silver, science is “man's greatest intellectual adventure. At its most abstract, science shades into philosophy; at its most practical, it cures disease.”[7]

Therefore, a scientific worldview provided an attractive foundation for pharmacy professionals, because it had the power to:

*** Capture the individual's mind and stimulate the intellect**

*** Offer rules and conventions for correct behaviour**

*** Be hands on and useful in curing the sick**

Given the strengths of these attributes for the individual and the emerging community of practitioners, Bell's vision quickly attracted devotees and the resulting Pharmaceutical Society of Great Britain grew to be one of the UK's first and longest surviving professional bodies.

Scientific worldview

According to Thomas Kuhn, scientists work in competing paradigms, which he defined as “the entire constellation of beliefs, values, techniques and so on shared by the members of a given community”.[8]

Evidence suggests that the professional network initiated by Bell operated within a scientific paradigm, which dominated the thinking, beliefs and practices of British pharmacists until the apprenticeship system died at the end of the 1939-45 war. Under the system, Bell's mental model was passed down from generation to generation of working dispensers during their in-house training.

After the war, this paradigm was challenged by the beliefs of a new community of pharmacists who received their training in the higher education sector, primarily in polytechnics.

Before their reform in 1992, polytechnics were tertiary education institutions that taught applied education for work, often based upon the principles of engineering.

In contrast to the Bell model, many students of this environment were immersed in the beliefs that they should try to change the world during their working lives; they have proven skills to add value to patient care; and they should constantly change the ways they work for the better.

Therefore, their polytechnic education provided a modernising world view on the new breed of pharmacy professionals, many of whom were later instrumental in shaping the current reform process.

Panel 1: Pharmacy scientists versus pharmacy engineers

Pharmacy scientists:	Pharmacy engineers:
Approach nature with humility, for there is so much they do not know — they are surrounded by a vast sea of ignorance	Approach nature with assuredness, for there is so much they know they have not applied — they are surrounded by a vast sea of intelligence
Are content to find out what the world is like as it is	Are intent on remaking the world
Have a well developed methodology, and will go wherever it leads	Know precisely where to go, and will use any methodology to get there
Make no value judgements of nature; it is what it is	Begin with value judgements of nature, and seek to create changes that people will value
See knowledge as an end, valuable for its own sake and worth great expenditures to gain it	See knowledge as a costly means that should be applied efficiently if the costs are not to detract from valuable ends

Based upon Gilbert, 2007

As the Panel (above) details, the psychological history of pharmacy may have been shaped by two dominant mental models — the scientist and the engineer.

On the one hand, the scientifically oriented pharmacist believes that there is much to know about medicines and their use, and that scientific methods should be systematically applied in order to test their effects.

On the other, the engineer believes that we already know enough and that the goal of better patient outcomes should drive pharmacy policy.

Given the importance of the pharmacy premises in their history, scientific pharmacists are unlikely to pursue new ways of working that risk this essential tool in their trade. Engineers, however, are likely to consider any move that makes the world a better place for the individual pharmacist.

In part, this difference is due to economic and personal experience because the former group tended to own their own independent pharmacy, while the latter often began work as employees. Interestingly, this distinction still survives today, with some pharmacists shying away from promoting reforms because they wish to run a pharmacy and nothing else.

Many employed pharmacists, on the other hand, wish to make their career as rewarding as possible and have a strong desire to create opportunities beyond the dispensing bench.

Implementing change

“Pharmacy in England” was published after over 10 years of debate, negotiations and agreements between the DoH and a small network of leading pharmacists who shape policy for the profession. The seeds of the current document can be seen in “Pharmacy in the future”, with its emphasis on building on the strengths of pharmacy, while extending the professional role of the pharmacist.[9]

However, from the new White Paper, it is clear that many of the ideas presented in the earlier document — particularly medicines use reviews — have failed to deliver as expected. In response, action will now be taken to improve the ways in which pharmacy services are operated and commissioned.

However, the Department of Health does not believe that medicine services must be provided within community pharmacies or solely by trained pharmacists.

According to Senge, the problems with mental models lies not in whether they are right or wrong, but arises when the models are tacit because they exist below the level of awareness. For instance, the initial idea of introducing MURs was not necessarily good or bad.

However, problems in making the initiative work as expected may be caused by the failure of policy-implementers to see the underlying mental model they are introducing.

Using Gilbert's dichotomy, it could be argued that MURs, and other pharmacy initiatives, could be introduced using either a scientific or an engineering worldview. Under the former, pharmacists could use their in-depth scientific knowledge to analyse medicines usage systematically in an attempt to gain greater knowledge of their effects.

Under the latter, pharmacists could be charged with setting health priorities and changing patient behaviour, which involves management, clinical and psychological skills not traditionally included in their scientific training.

As “Pharmacy in the future” placed great value on extending the activities of the profession, the underlying intention was probably to introduce medicine use reviews within an engineering world view.

Indeed, the desire to impose the mind-set of the pharmacy engineer on the static world of community pharmacy clearly underpinned the whole of the earlier White Paper.

However, it may be argued that the desire for reform may have owed as much to the images, assumptions, and stories held by the tight network of individuals who influenced pharmacy policy at the time than to the actual needs and demands of patients.

For instance, the public may prefer pharmacists to remain dispensers and wish for medicines advice from nurses in local practices. However, because these pharmacy engineers were united in their mental desire to change the world, they projected onto community pharmacy the belief that the system was outdated and that professional activities should be reformed.

Discussion

Although the view that pharmacy reform is both required and, now, inevitable has spread widely over the past decade, it should be questioned whether this belief simply reflects the frame of mind of those who influence policy.

Because of the Bell-influenced world view, community pharmacy has been static in its structure and its operation because the pharmacist requires a stable bench to work from. Attempts to divert pharmacists into new activities, or to arbitrage pharmacy resources elsewhere in primary care, do little to deliver a scientifically orientated service.

Therefore, the idea that community pharmacy should be robed in the latest fashions in pharmacy thinking may be an example of “the engineer's new clothes”. Indeed, this analogy seems correct because few in the profession have publicly cried out against the reform programme, when from an outsider's perspective the DoH's plans seem to be the most threatening changes community pharmacy has ever faced.

Conclusions

“Pharmacy in England” is full of references to the fact that recent attempts to re-engineer community pharmacy from the inside have failed. In response, the commissioning of pharmacy services is likely to pass to primary care trusts, which will not be bound by a mental model dictating that pharmaceutical monies must be spent on pharmacists.

On the contrary, the management skills of local surgeries, the clinical skills of nurses and the persuasion tools of clinical psychologists may be better suited to delivering the re-engineering agenda originally announced in “Pharmacy in the future”.

Consequently, the psychological desire to reform the profession may have simply created the unexpected situation that, if policy influencers fail to value the existing pharmacy network, few outside the profession are likely to work to guarantee its survival in an evolving NHS.

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